

## Claims

1. Apparatus (1) for the preparation of an electrochemical sensor (2) in order to provide its sensor head (2a) with an electrolyte (3) and a membrane (4), the apparatus comprising a holding means (6) for the sensor (2), a means for dispensing the electrolyte (7) and also a means for dispensing the membrane (8).
2. Apparatus in accordance with claim 1, characterized in that the holding means, the means for dispensing the electrolyte (7) and also the means for dispensing the membrane (8) are arranged within a common housing (5) and in that the means for dispensing the electrolyte (7) and also the means for dispensing the membrane (8) are displaceably mounted with respect to the holding means (6).
3. Apparatus in accordance with one of the preceding claims, characterized in that the means for dispensing the electrolyte (7) and also the means for dispensing the membrane (8) are displaceably mounted with respect to the holding means (6), in that the means for dispensing the electrolyte (7) is positionable with respect to the holding means (6) such that the electrolyte (3) can be supplied to the sensor (2) held in the holding means (6) and in that the means for dispensing the membrane (8) can be positioned with respect to the holding means (6) in such a way that the membrane (4) can be connected to the sensor (2) held in the holding means (6).
4. Apparatus in accordance with one of the preceding claims, characterized in that the means for dispensing the membrane (8) is designed in such a way that the membrane (4) can be secured to the sensor head (2a) with a reproducible pressing force.
5. Apparatus in accordance with one of the preceding claims, characterized in that the means for dispensing the membrane (8) includes a pressing body (8e) with a pressing surface (8g), wherein the pressing body (8e) is arranged such that the pressing surface (8g) contacts the membrane (4) in areal manner during the dispensing of the

membrane (4) in order to displace electrolyte located between the membrane (4) and the sensor head (2a) in such a way that the sensor connected to the membrane (4) has a reproducible layer thickness of the electrolyte (3), in particular a uniform a layer thickness of the electrolyte (3), between the sensor head (2a) and the membrane (4).

6. Apparatus in accordance with one of the preceding claims, comprising in addition a means for the cleaning of the sensor head (9) which is displaceably mounted with respect to the holding means (6), wherein the means for cleaning (9) can be so positioned with respect to the holding means (6) that it mechanically cleans the sensor head (2a) of the sensor (2) held in the holding means (6).
7. Apparatus in accordance with one of the preceding claims, comprising in addition a means for the removal of a membrane (10), which is displaceably mounted with respect to the holding means (6), wherein the means for the removal of the membrane (10) can be positioned with respect to the holding means (6) such that after the removal of a used membrane (4) the sensor (2) can be supplied to the holding means (6).
8. Apparatus in accordance with one of the preceding claims, characterized in that at least the means for the dispensing of the electrolyte (7) and also the means for the dispensing of the membrane (8) are secured to a common carrier (11), wherein the means for the cleaning (9) and also the means for the removal of the membrane (10) are preferably also secured to the common carrier (11).
9. Apparatus in accordance with one of the preceding claims, comprising a housing (5) with a housing base (5b) and also a housing cover (5a) wherein the holding means (6) for the sensor (2) is arranged in the housing base (5b).
10. Apparatus in accordance with claim 9, characterized in that the housing base (5b) and also the housing cover (5a) are each designed as a half shell which form a common

inner space for the reception of at least the means for the dispensing of the electrolyte (7) and also of the means for the dispensing of the membrane (8) and preferably form a common inner space for the reception of all means (6, 7, 8, 9, 10).

11. Apparatus in accordance with claim 10, characterized in that the housing base (5b) and also the housing cover (5a) are releasably connectable to one another, in particular by a mutual rotary movement.
12. Apparatus in accordance with one of the claims 9 to 11, characterized in that the housing (5) also includes an actuating means (5c) movably disposed with respect to the housing cover (5a) which has an operative connection (5d) to at least one of the means (7, 8, 9, 10) in order to bring about a force and/or a movement on the means (7, 8, 9, 10) via the actuating means (5c).
13. Apparatus in accordance with claim 12, characterized in that the actuating means (5c) is displaceably mounted essentially in the vertical direction with respect to the housing cover (5a).
14. Apparatus in accordance with one of the claims 8 to 13, characterized in that the common carrier (11) is formed as an exchangeable part, and in particular as a disposable part.
15. Common carrier (11) for an apparatus in accordance with one of the preceding claims, comprising at least one container (7d) filled with electrolyte (7e) and also a membrane (4).
16. Common carrier (11) in accordance with claim 15, comprising in addition, a means for the cleaning (9) and also a means for the removal of the membrane (10).

17. Common carrier (11) in accordance with one of the claims 15 or 16, characterized in that it has a first connection part (11d) which defines an axis of rotation and in that the container (7d) and also the membrane (4) and in particular also the means for cleaning (9) and also the means for the removal of the membrane (10) are arranged spaced apart in a peripheral direction with respect to the axis of rotation.
18. Common carrier (11) in accordance with 17, characterized in that the means for the removal of the membrane (10), the means for cleaning (9), the means for the dispensing of the electrolyte (7) and the means for the dispensing of the membrane (8) are arranged following one another in the peripheral direction.
19. Method for the preparation of an electrochemical sensor (2) in order to provide a sensor head (2a) with an electrolyte (3) and a membrane (4), characterized in that the sensor (2) is secured in a holding means (6) and in that thereafter, in compulsory guided manner, at least the electrolyte (3) is applied onto the sensor head (2a) and the sensor head (2a) is then provided with a membrane (4) which covers the electrolyte (3).
20. Method in accordance with claim 19, characterized in that the membrane (4) is supplied to the sensor head (2a) with a reproducible pressing force defined by a spring in order to reproducibly displace electrolyte (3) present between the membrane (4) and the sensor head (2a) in such a way that in each case a reproducible layer thickness of electrolyte (3) arises between the membrane (4) and the sensor head (2a).
21. Method in accordance with claim 19 or 20, characterized in that, compulsory guided, the original membrane is first removed from the sensor head (2a), the sensor head (2a) is thereafter cleaned, the electrolyte (3) is thereafter deposited on the sensor head (2a) and a membrane (4) is thereafter connected to the sensor (2).

22. Method in accordance with claim 21, characterized in that the compulsory guidance takes place in such a way that the sensor (2) is secured within a housing (5) and in that the individual steps at the sensor (2) are compulsorily guided by rotation of a part of the housing (5).